

"CLEAN" COPY OF AMENDED SPECIFICATION

ADVERTISING LIGHT EMITTING PEN

FIELD OF THE INVENTION

The present invention relates to pens, and particularly to an
5 advertising light emitting pen which can emit light and has an effect
of advertisement.

BACKGROUND OF THE INVENTION

In the prior art advertise pen, the patterns printed on a surface of
the pen tube is easily worn when the pen is used for a longer time.
10 Moreover, in the prior art, the patterns of an advertising light emitting
pen is at a middle section of a pen and a light emitting body is
displaced in a position with respect to the pattern so that the light
emitting body at a middle or upper section of the pen. Thus, the
light out of the pen can not clearly illuminate the paper which is
15 placed near a lower section of the pen as the user writes on the paper.
This is not beneficial at night. Therefore there is an eager demand
for a novel design which can improve the defect in the prior art.

SUMMARY OF THE INVENTION

20 Accordingly, the primary object of the present invention is to
provide an advertising light emitting pen which comprises an upper

emitting device, and a push-and-brake device for driving the light emitting device to move. The lower pen tube includes an outer tube, an inner tube in the outer tube, a refill in the inner tube, a resilient spring in the inner tube and below the refill, and a light guide tube in the inner tube and being passed by an upper section of the refill. The feature of the advertising light emitting pen is that a top of the light guide tube resists against a lower end of the light emitting device. A surface of the inner tube is coated with film having advertising patterns or texts thereon. The film includes two parts with one part being a transparent surface and another part being an opaque surface for printing with pattern or texts. The transparent surface has no pattern or text thereon. When the light emitting device lights up, light transmits into the inner tube through the light guide tube and then emits out from the inner tube; the light emits from the outer tube to radiate into a paper to be written.

The various objects and advantages of the present invention will be more readily understood from the following detailed description when read in conjunction with the appended drawing.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is an exploded perspective view of the first embodiment of the present invention.

Fig. 2 is an assembled perspective view of the first embodiment of the present invention.

Fig. 3 is a cross section view of the first embodiment of the

present invention.

Fig. 4 is a schematic view about the operation of the first embodiment of the present invention.

Fig. 5 is a schematic view of the second embodiment of the present invention.

Fig. 6 is a schematic view of the third embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

10 FIRST EMBODIMENT

Referring to Fig. 1, the exploded perspective view of the present invention is illustrated. Fig. 2 is an assembled perspective view and Fig. 3 is a cross section view of Fig. 1. In the drawing, the pen of the present invention includes an upper pen tube 20 and a lower pen tube 10. An advertising light emitting pen 30 is formed by assembling the upper pen tube 20 and lower pen tube 10. The upper pen tube 20 is a pressable pen tube which includes an outer tube 21, a light emitting device 22 in the outer tube 21 (the light emitting device 22 is formed by a liner tube 24, a battery set 23 in the liner tube 24, and a light emitting body 25 below the liner tube 24), a push-and-brake device 26 for driving the light emitting device 22 to move. The lower pen tube 10 includes a transparent outer tube 11, a transparent inner tube 12 in the transparent outer tube 11, a refill 13

transparent outer tube 11 and incident to the paper for writing. When the patterns or textures are concave or convex patterns or textures, the patterns or textures will have vivid images by the impinging of the light from the inner tube 12.

5 Referring to Figs. 1 and 2, a hollowed pattern 21a is formed by hollowing the wall at a lower end of the outer tube 21 of the upper pen tube 20. The hollow pattern 21a is formed by punching or molding, etc. and may be a trademark. The position of the hollowed pattern 21a sets aside the light emitting device 22. When the light
10 emitting device 22 lights up, the light passes through the hollowed pattern 21a. It is preferable that the light emitting device emits colored lights.

Above mentioned outer tube 11, inner tube 12 and lower pen tube 10 are transparent. The light guide tube 15 has a function of
15 stabilizing refill 13. A top of a transparent upper plastic solid body of the light guide tube 15 is in contact with the light emitting body 25. Thereby, light can be guided by the light guide tube 15 so that light is transferred from the upper end to the lower end. The light guide tube 15 can be integrally formed with the refill 13. Moreover, in the
20 present invention, the light guide tube 15 can be neglected, however this will induce a poor light guide effect. The refill 13 must be formed with two protrusions (not shown) at a predetermined position of the outer wall thereof for stopping the resilient spring 14.

Referring to Figs. 3 and 4, the structure of the upper pen tube 20

transparent inner tube 12 enclosing the light guide tube 15 and the transparent outer tube 11 enclosing the inner tube 12 causes the light emits out from the light guide tube 15 through the transparent inner tube 12 and outer tube 11 so that the lower section of the advertising light emitting pen 30 can light up. Since the film 12a is on the surface of the inner tube 12, when light emits from the inner tube 12, the patterns or textures on the film 12a appear clearly so as to achieve the effect of advertisement. Moreover, the film 12a is between the inner tube 12 and the outer tube 11, it is not worn or vague by the holding of the pen.

SECOND EMBODIMENT

Referring to Fig. 5, a cross section view about the advertising light emitting pen of the present invention is illustrated. The difference of this embodiment to the above embodiment is that the upper pen tube 40 is a rotatable pen tube which is known in the prior art and thus the details will not be described here. The structure of the lower pen tube 10, light emitting device 22 and film 43 on the outer tube 41 are the same as above mentioned embodiment. When the user rotates the outer tube 41 of the upper pen tube 40, the actuation device 43 can be driven to rise or descend so as to emit light and rise or descend the refill 13. For example, when the outer tube 41 rotates clockwise, the light emitting device 22 will be driven to emit light and the refill 13 protrudes from the outer tube 11. Moreover, when the upper pen tube 40 rotates counterclockwise, the